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Mr. David H. Meyer
Acting Deputy Director
Office of Electricity Delivery and Energy Reliability
U. S. Department of Energy
Washington D.C. 20585

Sent via email: Economic.Dispatch@hq.doe.gov

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Dear Mr. Meyer,

The following response is provided by Xcel Energy Services Inc. (Xcel Energy) on behalf of the public utility subsidiaries of Xcel Energy namely, Northern States Power (NSP) and Northern States Power–Wisconsin (NSP-WI), Public Service Company of Colorado (PSCo) and Southwestern Public Service Company (SPS), referred to jointly as the Xcel Energy Operating Companies. Because Xcel Energy Operating Companies operate in three distinct areas and two different interconnections our responses address multiple types of operations related to dispatch. Based on these practices and experience we provide our opinion as to which methodology is the best operating practice.

Questions

- 1) What are the procedures now used in your region for economic dispatch? Who is performing the dispatch (a utility, an ISO or RTO, or other) and over how large an area (geographic scope, MW load, MW generation resources, number of retail customers within the dispatch area)?**

NSP and NSP-WI are members of the Midwest Independent System Operator (Midwest ISO) market and reliability area. The Midwest ISO was formed in 1996 as a voluntary association of electric transmission owners in the Midwest to comply with the requirements of FERC Order's 888 and 889 and is presently a FERC-approved Regional

Transmission Organization (RTO). Members include investor-owned utilities, cooperatives, municipals, public power districts, independent transmission-only companies, power marketers, independent power producers and industrial end users. As an RTO, the Midwest ISO provides non-discriminatory, open access transmission service, serving as the regional hub for the flow of electricity in the 15-plus states of its members. To ensure the safe and reliable operation of the bulk electric transmission system, the Midwest ISO is responsible for the full functional control of its members' transmission system. In its role as an RTO, the Midwest ISO performs many analytical functions designed to enhance grid reliability, including, but not limited to, next-day reliability analysis, maintenance outage analysis, regional infrastructure planning, and available flowgate capability calculations.

To comply with the requirements of FERC's Order 2000, the Midwest ISO and its members developed a Transmission and Energy Markets Tariff in late 2003. In 2005, the Midwest ISO and its members began operating under the requirements of this tariff that established day-ahead, security-constrained economic dispatch for member generating assets.

Companies that participate in the Midwest ISO market must offer all their generating units to the market and are allocated financial transmission rights to provide a hedge against congestion charges. These companies allow the Midwest ISO to economically commit and dispatch units to serve the load at the lowest cost, based on the bids received, while maintaining a reliable system. The Midwest ISO has the right to commit and dispatch units offered on a financially binding basis in the day-ahead time frame. As a result, the Midwest ISO can ensure that the most economical units are online

and available to serve load. At this time, the Midwest ISO does not offer an ancillary service market. Accordingly the responsibility for meeting NERC reliability standards still resides with the balancing authorities, such as NSP, for minute-to-minute balancing of load and generation.

The Midwest ISO market footprint has approximately 16.5 million customers, 112,000 MWs of peak load in 2005, and 132,000 MWs of generation.

SPS is in the Southwest Power Pool (SPP) region. Today, SPS is responsible for economic dispatch of its units to supply energy to its obligation loads. The SPS operating company will have approximately 4,800MW of summer peak load in 2005 with about 4,900 MWs of net dependable generation capability and approximately 480,000 retail customers and a large number of end users through full and partial requirements wholesale contracts. SPS commits and dispatches all units for which it has contractual rights to serve the loads of its retail and wholesale customers in a cost efficient manner, using least cost dispatch algorithms, while respecting transmission constraints and reliability standards.

Xcel Energy notes that SPP has received FERC approval as an RTO. However, the SPP is still developing its market design and is at least nine months from operating an energy market. Based upon the current design, SPP will require that SPS commit enough units to cover its customer loads, much the same as it does today. As proposed, in the operating horizon (intra-day) time-frame SPP will dispatch the units offered into the market to cover “imbalance” on an economic basis. The primary difference between Midwest ISO and SPP dispatch methods will be in the day-ahead time period when the majority of the commitment decisions will be made. Midwest ISO has the ability to have

lower cost units brought on line through a binding day-ahead market, while SPP will only be able to dispatch units already on line to serve load.

Xcel Energy's PSCo operating company is on the eastern edge of the Western Electricity Coordinating Council (WECC). There currently are no plans for a bid-based generation market for the PSCo area. PSCo commits and dispatches those units that it owns or has contractual rights to serve its loads on a least-cost basis, considering transmission constraints and reliability requirements. This approach is similar to the method used by SPS. In 2005, the PSCo control area had a peak load of about 8600 MWs to serve approximately 1.2 million retail customers and approximately 800 MW of full and partial requirements wholesale customer loads.

2) Is the Act's definition of economic dispatch (see above) appropriate? Over what geographic scale or area should economic dispatch be practiced? Besides cost and reliability, are there any other factors or considerations that should be considered in economic dispatch, and why?

Xcel Energy believes the definition as stated in the Act is appropriate, with the addition of two important qualifications. First, an entity can only utilize economic dispatch with units over which it has contractual control to dispatch the unit. Secondly, regional economic dispatch must be accompanied by an allocation of congestion hedging rights to protect the utility from regional dispatch congestion costs. In the past, with each utility managing transmission access on its own wires, the utility was able to protect its local economic dispatch assumptions by virtue of its local methods of calculating available transfer capability. When a large regional entity assumes responsibility for transmission access and regional economic dispatch, a shift in transmission flows could

result in loss of the historic usage rights or else severe economic consequence for a utility to continue routine operations.

With the addition of these important qualifications, Xcel Energy believes that the statutory definition of economic dispatch is appropriate.

Xcel Energy supports the methodology used in the Midwest ISO region as providing the best basis for economic dispatch since it does include the allocation of congestion hedging rights discussed above. Because the Midwest ISO method covers a larger area, with greater numbers and types of generating units, it provides more options and flexibility to achieve the most efficient dispatch solution.

- 3) How do economic dispatch procedures differ for different classes of generation, including utility-owned versus non-utility generation? Do actual operational practices differ from the formal procedures required under tariff or federal or state rules, or from the economic dispatch definition above? If there is a difference, please indicate what the difference is, how often this occurs, and its impacts upon non-utility generation and upon retail electricity users. If you have specific analyses or studies that document your position, please provide them.**

Initially, the Xcel Energy Operating Companies do not have the right to commit and dispatch non-utility generation, normally called Independent Power Producer (IPP) generation, unless they have a contract with an IPP allowing them to do so. SPS and PSCo operate under a regulated service obligation, unbundling of generation from transmission and distribution has not yet occurred and rates are established based on state regulation. Therefore, an IPP would generally require a contract with SPS or PSCo before it would be considered in the economic dispatch decisions made by either of those companies. If SPS or PSCo has a contract to receive power from an IPP, the IPP unit output would be modeled along with utility-owned resources and the IPP unit would be

dispatched economically within the terms of the contract. If an IPP without a unit commitment contract offers energy to SPS or PSCo under an enabling agreement, and by purchasing the power under the terms of the offered product SPS or PSCo can lower the cost to the customers while still maintaining reliability, Xcel Energy would purchase and schedule energy from the IPP. In the NSP area, since the Midwest ISO offers a geographically and electrically broad based market alternative, it is more likely that an IPP would offer its energy to the Midwest ISO market instead of selling directly to a utility. This is one of the reasons why Xcel Energy acknowledges that the economic dispatch in an RTO/ISO is likely to be more efficient than a stand-alone operating company.

4) What changes in economic dispatch procedures would lead to more non-utility generator dispatch? If you think that changes are needed to current economic dispatch procedures in your area to better enable economic dispatch participation by non-utility generators, please explain the changes you recommend.

The Xcel Energy Operating Companies believes that their operations generally facilitate non-utility generator dispatch. As discussed above, the Xcel Energy Operating Companies have the ability to dispatch non-utility generation under contractual agreement, and in cases where a non-utility generator offers a lower cost alternative to generation operated by the Xcel Energy's Operating Companies, they will purchase such generation if reliability will not be adversely affected.

More non-utility generation would be dispatched if there were requirements for IPPs to sign a contract allowing a control area operator to dispatch its unit on an economic basis at a price agreed to by the parties, or if there were a requirement for a RTO/ISO bid-based market format with congestion hedging capability in all areas. Xcel

Energy notes that either of these changes would require considerable coordination with state and Federal regulators to address passing costs from these “economic dispatch” purchases through to a utility’s customers. Today’s rules related to purchases put the purchasing utility at risk of not being able to pass some or all of the costs of purchases on to their retail and wholesale customers. The impact of such purchase obligations on reliability would also need to be addressed in the context of reserve requirements, reserve activation and dependability.

- 5) If economic dispatch causes greater dispatch and use of non-utility generation, what effects might this have – on the grid, on the mix of energy and capacity available to retail customers, to energy prices and costs, to environmental emissions, or other impacts? How would this affect retail customers in particular states or nationwide? If you have specific analyses to support your position, please provide them to us.**

Xcel Energy notes that some states, as well as the Federal Energy Regulatory Commission (FERC) has rules related to costs associated with passing purchased power costs through to customers. For example, Xcel Energy’s SPS subsidiary currently has a case before FERC (Docket No. EL05-19) where its customers have filed a complaint alleging SPS of passing costs through its fuel factor, even though such costs were lower than SPS’s avoided costs. Similar questions have been raised before state jurisdictional authorities. This is one of the biggest issues utilities must address when a decision is made about purchasing power from another entity. The issue of recoverability should be addressed before any implementation of rules requiring economic dispatch across generation units other than an entity’s own resources is adopted.

Additionally, reliability rules must be reviewed, and potentially modified, to ensure that they are consistent for various transaction types. Examples of reliability rules

that would need to be reviewed are the North American Electric Reliability Council's Standard BAL-002 and the various reserve sharing group's rules for reserve activation.

Xcel Energy does not have the information that would be required to determine economic dispatch impacts on market prices, emissions or other impacts.

Finally, Xcel Energy notes that cost is not the only variable that must be taken into account to ensure reliable electric service to all customers. At this time, not all units are run based solely on economics. Units run for reliability reasons may displace lower cost units that cannot provide the needed service at every location, such as voltage support. Incremental costs are not the only factor that must be considered when developing a resource plan. Installed cost of capacity, fuel diversification, and related concerns must be taken into account to ensure that balanced, diversified and reliable electric service is maintained for all classes of customers.

6) Could there be any implications for grid reliability – positive or negative – from greater use of economic dispatch? If so, how should economic dispatch be modified or enhanced to protect reliability?

Xcel Energy believes that broad based regional economic dispatch has positive impacts on both reliability and economics. Xcel Energy believes that in order to perform a reliable regional economic dispatch the grid operator must perform a security constrained unit commitment. In areas without regional markets, this detailed level of regional security evaluation is not performed; instead each local area performs local unit commitment decisions. As previously mentioned, Xcel Energy observes economic benefits from regional price-optimized energy supplies. In addition, there are reliability benefits from commitment of generating resources. However, any regional economic

dispatch must involve a regional security-constrained unit commitment process to assure reliability as well as cost savings.

Respectfully Submitted,

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